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10/595,439	08/17/2006	Clement Woon	16455.6	9649

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EXAMINER	
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ART UNIT	PAPER NUMBER
2458	

NOTIFICATION DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/595,439	WOON ET AL.	
	Examiner	Art Unit	
	CATHERINE THIAW	4143	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 April 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *29-59* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *29-59* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *19 April 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *07/19/2006, 10/23/2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-28 have been cancelled on 06/06/2006.

2. Claims 29-59 are pending.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claims 29-52 are rejected under 35 U.S.C. 101 because the claims recite functional descriptive material per se, which is not associated to computer readable medium.

4. As to claim 29, the claim is directed to a method of managing information exchanges in a worksite by networking items of apparatus which perform tasks in connection to said worksite and which receive and/or send data. Claim 29 fails to disclose the apparatus or machine the networking items of apparatus receive data from or send data to, or the acts to transform particular articles to a different state or thing related to receiving or sending data.

5. As to claims 3-51, they depend from claim 29 and are rejected on the same basis.

Claim Objections

6. Claims 31, 32, 34 and 57 recite the limitation "said address" respectively in lines 2 , 1, 2 and 2. There is insufficient antecedent basis for this limitation in the claim. For examinations purposes, that limitation will be considered as “said address structure”.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 29-32, 44-48, 50-55 are rejected under 35 U.S.C. 102(b) as being unpatentable over Sharpe, U.S. Patent No. 5,960214.

9. As to claim 29, Sharpe discloses a method of managing information exchanges in a worksite by networking items of apparatus which perform tasks in connection with said worksite (col. 6, lines 10-16) and which receive and/or send data (col. 11, lines 6-

13), the method using an electronic data network comprising management means cooperating with a plurality of communications interfaces (col. 11, lines 42-57: interfaces 45, 44, 46, 48, Fig. 1), a given said item of apparatus having a data link with a specified said communications interface (col. 6, lines 58-62), wherein at least some said items of apparatus are organized in hierarchical levels according to a determined dependency relationship of the worksite (col. 5, lines 4-15) , and in that said management means performs the method comprising the following acts: storing a correspondence between each said item of apparatus organized in hierarchical levels and an address structure reflecting the hierarchical position of that item of apparatus in said determined dependency relationship of the worksite (col. 12, lines 66-67 and col. 13, lines 1-10: the address structure is represented by the OLE object representing the device), and using that correspondence to establish a communications link with a selected item of apparatus, via its communications interface, in response to a call addressed with an address structure reflecting the hierarchical position of said selected item of apparatus (col. 5, lines 9-15).

10. As to claim 30, Sharpe discloses a method according to claim 29, further comprising the act of accessing from outside said worksite a selected said item of apparatus through said electronic data network (col. 8, lines 55-65: application 56 sending the commands is outside the worksite made up of the smart devices 12), by using an address comprising an address structure reflecting the hierarchical position of said selected item of apparatus (col. 16, lines 25-46).

11. As to claim 31, Sharpe discloses a method according to claim 29, wherein said management means operate by converting said address (structure) into a corresponding device address for accessing said selected item of apparatus on said electronic network and by using that device address to call the communications interface to which said selected item of apparatus has a data link (col. 15, lines 9-22).

12. As to claim 32, method according to claim 31, wherein said address is an IP (Internet Protocol) address (col. 15, lines 30-37: TCP/IP node name or col. 43, line 50: device node address).

13. As to claim 44, Sharpe discloses a method according to claim 29, further comprising an act of limiting data transmissions to between only those items of apparatus which are mutually compatible or expected to communicate with each other ever said electronic network (col. 9, lines 30-44).

14. As to claim 45, Sharpe discloses a method according to claim 44, further comprising the act of providing a centralized monitoring and/or management of messages exchanged over said electronic network (col. 4, lines 41-47, and col. 6, lines 10-16).

15. As to claim 46, Sharpe discloses a method according to claims 29, further comprising an act of providing a centralized management of static or dynamic

identification allocation to the communications interfaces operating in the network (col. 22, lines 45-66, and col. 23, lines 11-17).

16. As to claim 47, Sharpe discloses a method according to claim 29, further comprising an act of executing automatically a work plan programming said tasks of said items of apparatus automatically to conduct operations in said worksite (col. 7, lines 21-27), commands of said work plan designating selectively to said items of apparatus using said address structure reflecting the hierarchical position of said selected item(s) of apparatus (col. 8, lines 13-18).

17. As to claim 48, Sharpe discloses a method according to claim 29, wherein said items of apparatus communicate to each other selectively, a call being made from one item of apparatus to another using said address structure reflecting the hierarchical position of said selected item of apparatus (col. 9, lines 9-13).

18. As to claim 50, Sharpe discloses a method according to claim 29 for managing an automated worksite in which physical and logical addressing of the communication interfaces is separated with a unique ID other than the IP address (col. 15, lines 39-48: station address).

19. As to claim 51, Sharpe discloses a method according to claim 50, wherein the physical and logical addressing includes multiple different IP (col. 4, lines 66-67 and col. 5, lines 1-5: multiples devices, each with an IP) and/or unique ID addressing (col. 15, lines 10-22).

20. As to claim 52, Sharpe discloses a system for managing information exchanges in a worksite, comprising;

an electronic communications network connecting items of apparatus which perform tasks in connection with said worksite (col. 6, lines 10-16) and which receive and/or send data (col. 11, lines 6-13), the electronic communications network comprising:

management means cooperating with a plurality of communications interfaces (col. 11, lines 42-57: interfaces 45, 44, 46, 48, Fig. 1), a given said item of apparatus having a data link with a specified said communications interface (col. 6, lines 58-62), wherein at least some said items of apparatus are organized in hierarchical levels according to a determined dependency relationship of the worksite (col. 5, lines 4-15), said management means comprising:

means for storing a correspondence between each said item of apparatus organized in hierarchical levels and an address structure reflecting the hierarchical position of that item of apparatus in said determined dependency relationship of the worksite (col. 12, lines 66-67 and col. 13, lines 1-10: the address structure is represented by the OLE object representing the device); and

means for operating on the basis of said correspondence to establish a communications link with a selected item of apparatus, via its communications interface, in response to a call addressed with an address structure reflecting the hierarchical position of said selected item of apparatus (col. 5, lines 9-15).

21. As to claim 53, Sharpe discloses a system according to claim 52, further comprising a terminal outside said worksite, operative to access a selected said item of

apparatus through said electronic data network (col. 8, lines 55-65: computer hosting application 56 sending the commands is outside the worksite made up of the smart devices 12), said terminal including means for generating an address comprising said address structure reflecting the hierarchical position of said selected item of apparatus (col. 16, lines 25-46).

22. As to claim 54, Sharpe discloses a system according to claim 52, wherein said management means comprise means for converting said address structure reflecting the hierarchical position of said selected item of apparatus into a corresponding device address for accessing said selected item of apparatus on said electronic network, and means using that device address to call the communications interface to which said selected item of apparatus has a data link (col. 15, lines 9-22).

23. As to claim 55, Sharpe discloses a system according to claim 52, wherein the device address includes an IP (Internet Protocol) address (col. 15, lines 30-37: TCP/IP node name or col. 43, line 50: device node address).

Claim Rejections - 35 USC § 103

24. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

25. Claims 33-36, 38-43, 56-59 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sharpe, U.S. Patent No. 5,960214, in view of Uhler et al., U.S. 20010039587, hereinafter, Uhler.

26. As to claims 33 and 56, while Sharpe discloses paths to access objects within the hierarchy (col. 14, lines 30-35), Sharpe does not explicitly teach a directory-path.

27. Uhler discloses a method mapping network devices to URLs address. URLs specify the location of the resource in a file structure describing the position of a resource in a directory-path structure (paragraph [0027], lines 1-15).

28. It would have been obvious to a person with ordinary skills in the art at the time of the invention to modify the teachings of Sharpe with the teachings of Uhler by mapping the devices in the network into URLs reflecting the hierarchical position of said selected item of apparatus expressed as a directory-path, as disclosed in claims 33 or 56. The motivation to modify the teachings of Sharpe with the teachings of Uhler would be to ease the management of the network of devices using a file system structure.

29. As to claims 34 and 57, Sharpe does not disclose a worksite identified by a generic portion of a said address that comprises said address structure reflecting the hierarchical position of a selected item of apparatus.

30. Uhler discloses a method mapping network devices to URLs address. URLs specify the location of the resource in a file structure describing the position of a resource in a directory-path structure (paragraph [0027], lines 1-15: the generic portion of the address is the host name).

31. It would have been obvious to a person with ordinary skills in the art at the time of the invention to modify the teachings of Sharpe with the teachings of Uhler by mapping the devices in the network into URLs as disclosed in claims 34 and 57.The motivation to modify the teachings of Sharpe with the teachings of Uhler would be to ease the management of the network of devices using a generic structure including hostname/directory-path of a device pointing directly to the location of the device.

32. As to claims 35 and 58, Sharpe does not disclose a method or system wherein said address structure reflecting a hierarchical position of a said item of apparatus is a Uniform Resource Locater (URL), said U.R.L having a directory-path portion corresponding to said address structure reflecting the hierarchical position of said selected item of apparatus.

33. Uhler discloses a method mapping network devices to URLs address. URLs specify the location of the resource in a file structure describing the position of a resource in a directory-path structure (paragraph [0027], lines 1-15).

34. It would have been obvious to a person with ordinary skills in the art at the time of the invention to modify the teachings of Sharpe with the teachings of Uhler by mapping the devices in the network into URLs as disclosed in claims 35 and 58.The motivation to modify the teachings of Sharpe with the teachings of Uhler would be to ease the management of the network of devices using a generic structure including hostname/directory-path of a device pointing directly to the location of the device.

35. As to claims 36 and 59, the combination of Sharpe and Uhler discloses a method or system according to claim 35 or 52, wherein said uniform resource locater includes a hostname portion that is specific to said worksite (paragraph [0027], lines 11-15, from Uhler).

36. As to claims 38, 39 and 42, Sharpe does not explicitly disclose a method or system, further comprising an act of converting an address structure designating an item of apparatus to be accessed in accordance with a second hierarchy, the second hierarchy being different from the hierarchy used by the management means to organize the hierarchical levels according to said determined dependency relationship, into the address in said electronic network of said designated item of apparatus (claim 38) nor a method, further comprising an act of assigning a separate class/sub-class, in said hierarchical position relation, to items of apparatus as a function of whether they are static or mobile on the worksite (claim 39), nor a method, wherein a first level of

class/sub-class of item of apparatus, in said hierarchical position relation, comprises mobile units, a second level of sub-class being at least one command responsive functionally within a said mobile unit (claim 42).

37. However Uhler discloses classes of objects defining particular instance of objects that can have subclasses (paragraph [0056], lines 1-7, and paragraph [0058], lines 1-10: Uhler converts or represents the objects representing the network devices into classes and subclasses including variables and methods).

38. It would have been obvious to a person of ordinary skills in the art at the time of the invention to combine the teachings of Sharpe regarding objects representing network devices with the teachings of Uhler creating hierarchy of classes for the objects, in order to implement a method as disclosed in claim 38. For instance, a class defining attributes of devices such as mobile or static could be defined with a method using variation of coordinate of the devices with time, and further a subclass modifying the attribute of the class could be added as a responsive functionality, as disclosed in claim 39 and 42 . Such combination would have allowed defining instances of objects including variables and method specific to that class.

39. As to claim 40, the combination of Sharpe and Uhler discloses 40 a method according to claim 39, wherein at least some items of mobile apparatus perform the act

of relaying messages over said electronic network (col. 11, lines 63-67 and col. 12, lines 1-12, from Sharpe).

40. As to claim 41, the combination of Sharpe and Uhler discloses a method according to claim 39, further comprising an act of determining a current position of items of mobile apparatus and the act of managing the distribution of messages within said electronic network according to the items' current position (col. 54, lines 60-64, from Sharpe).

41. As to claim 43, Sharpe does not disclose a method according to claim 29, further comprising an act of securing communications by providing technical means for restricting access to the network to only authorized communications interfaces.

42. Uhler discloses an authentication server used to process requests made using username and password (paragraph [0062], lines 10-15).

43. It would have been obvious to a person with ordinary skills in the art at the time of the invention to combine the teachings of Sharpe with the teachings of Uhler by submitting requests using authentication in order to implement the method as described in claim 43, because it would add security to the management method.

Claim Rejections - 35 USC § 103

44. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

45. Claims 37 and 49 are rejected under 35 U.S.C. 103(a) as being obvious over Sharpe.

46. As to claim 37, while Sharpe discloses a method according to claim 29, wherein said worksite is an outdoor worksite (col.1, lines 20-27: field devices), Sharpe does not explicitly teach a worksite comprising any one of:
i) a civil engineering worksite, ii) a landscaping worksite, iii) a road or rail link construction worksite, and iv) a mining worksite.

47. However, Sharpe teaches field devices that can control and measure parameters (col. 1, lines 20-27).

48. It would have been obvious to a person with ordinary skills in the art at the time of the invention to use the smart field devices such as sensors, measurement devices taught by Sharpe in civil engineering or construction site because they would be remotely controllable and managed.

49. As to claim 49, Sharpe discloses a method according to claim 29 for managing an automated worksite further comprising an act of sending commands to a (contour changing) apparatus and to an on-board apparatus through a defined protocol (col. 7, lines 57-63), the commands being elaborated from a predetermined model (col. 9, lines 63-67 and col. 10, lines 1-14).

50. Although the commands are not specifically directed to a contour changing apparatus, it would be obvious to a person with ordinary skills in the art at the time of the invention to use the commands taught by Sharpe to operate a contour changing apparatus, because the smart devices of Sharpe may be any device that affects or determines a value associated with a process (col. 1, lines 20-28).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

51. Winterbottom, U.S. Patent 5724512 discloses a method of managing network devices organized in hierarchy.

52. Maki et al., U.S Patent No. 7293067 discloses a method of obtaining the physical location of resources in a network in a system connectable to the internet;

53. Abraham, U.S. 20050149468 discloses a mechanism of locating nodes in a network using LDAP, which indicates the directory path structure of nodes;

54. Douglas et al., U.S. 20040172466 discloses a method of monitoring devices in a hierarchical network where system information susch as IP, path identifiers are provided to a central monitoring system;

55. Ochiai, U.S. 20040083210 discloses a system for searching a device in a network, where a bit map and hierarchical location information is managed by a client computer;

56. Ochiai et al., U.S. Patent No. 7,099,937 disclose a system storing and managing information on devices of a network such as location and job;

57. Dev et al., U.S. Patent No. 6,374,293 and 6,216,168 disclose a network management model with relations between network entities, hierarchical and topological views of the network configuration;

58. Soderberg et al., U.S. Patent No. 6,519,626 disclose a method for converting directory path structure into a URL.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CATHERINE THIAW whose telephone number is (571)270-1138. The examiner can normally be reached on 8:30-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nabil El-HAdy can be reached on 571-272-3963. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Catherine Thiaw 01/08/2009
/THUHA T. NGUYEN/

Primary Examiner, Art Unit 2453